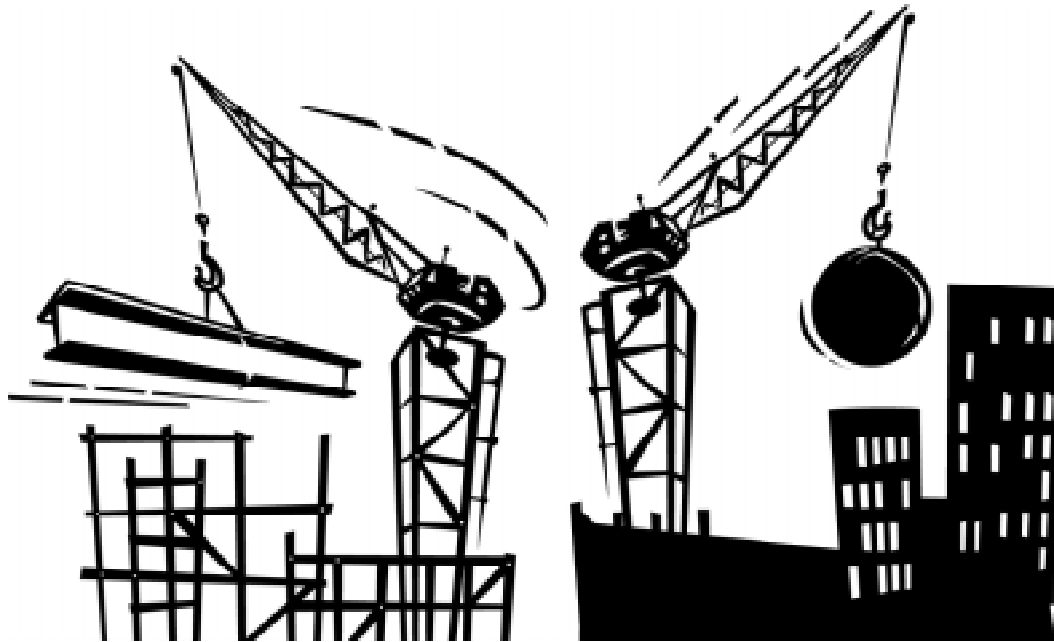


Construction and Demolition Recycling Program



Approximately 20% - 30% of
California's solid waste is
construction and demolition materials. . .

The California Integrated Waste Management Board
needs your help to find a home for
these materials!

C&D Recycling and Reuse Can Save You Money in Several Ways

On your construction site, you can...

- *Avoid disposal costs by selling salvagable materials.*
- *Reduce purchasing costs by utilizing reusable materials.*
- *Increase the market value of your recyclable materials by sorting on the site.*



On your demolition site, you can...

- *Increase the market value of your recyclable materials by sorting on the site.*
- *Use deconstruction techniques to increase your amount of salvagable materials.*
- *Avoid disposal costs by recycling extra materials.*

Do You Have C&D Materials to Discard?

Check the Board's "C&D Recyclers" List

This list includes approximately 500 sites in California that receive construction and/or demolition materials for recycling or reuse. It is sorted by county, and lists what materials are accepted such as asphalt, concrete, brick, appliances, flooring, glass, drywall, paint, plastic, and wood.

The information on the list is also available in a searchable database on the Board's C&D Recycling Program Web site:

www.ciwmb.ca.gov/ConDemo/

To receive a copy of this list (Pub #431-96-017), or to be included on the list, call (916) 255-2433.



Visit the Board's "C&D Recycling Program" Web Site

www.ciwmb.ca.gov/ConDemo/

You'll find a wealth of information on construction and demolition (C&D) debris management. C&D debris is usually generated by demolition and construction of structures such as residential and commercial buildings, and roadways. The Web site includes the following topics:











- Fact Sheets
- Presidio Case Study
- C&D Recycler's Database
- Recycled-Content Building Products
- Related Links
- Staff Contacts
- And lots more...


Or Contact the Construction and Demolition Program Staff

Carpet Recycling, Ordinances.....	Relly Briones (916) 255-2626
C&D Home Page, Metal Recycling, Waste Exchanges, Resourceful Construction, Wood, Drywall, Job Site Separation, Asphalt Roofing Shingles	Mark Fong (916) 255-2495
Building Code 2000, Recycled-Content Products	Francisco Gutterres (916) 255-2450
Recycled Aggregate, Asphalt Pavement Recycling, Caltrans & Transportation Products, Specifications, Deconstruction	Fred Jager (916) 255-2930
Recycled Construction Products, Recycled Paint, "Green" Building	Rick Muller (916) 255-2350
Plastic Lumber, Plastic Construction Materials	Edgar Rojas (916) 255-2585
Recycled Aggregate, Asphalt Pavement Recycling, Caltrans & Transportation Products, Specifications	Marylou Taylor (916) 255-2452
Supervisor	Steve Austrheim-Smith (916) 255-2449

Construction and Demolition Recycling Fact Sheets

The fact sheets described below provide information on alternatives to disposal. You can save money in avoided disposal fees and potentially generate income from the sales of salvageable materials.

- C&D Recycling Program A four-page summary of CIWMB programs and publications relevant to C&D recycling. 
- Job Site Source Separation A two-page overview of steps a contractor should consider that might enhance the likelihood of recycling wastes generated from construction or demolition activities. 
- Drywall Recycling A four-page overview of drywall recycling, including existing and potential markets, drywall processors in California, and a list of reports. 
- Why Use Recycled Plastic Lumber? A three-page overview of plastic lumber focusing on consumer issues and questions.
- Recycled Plastic Lumber:
Research and Development A three-page overview of technology and research around plastic lumber, including studies and contact names.
- Carpet A two-page overview of carpet reuse and recycling practices and list of facilities that take used carpet. 
- Asphalt Roofing Shingles
Recycling: Introduction A three-page overview of processing asphalt roofing shingles for recycling into various potential products. 
- Asphalt Roofing in
Aggregate Base A two-page overview of recycling ground asphalt roofing shingles into aggregate base. 
- Asphalt Roofing in Asphalt
Pavement A four-page overview of recycling ground asphalt roofing shingles into asphalt pavement. 
- Urban Wood Waste A two-page overview that includes estimated quantities of wood waste generated from most construction and demolition operations, as well as markets available for the processed wood waste. 
- Lumber Waste A two-page overview of options and current practices being employed to reuse whole or remilled lumber generated from C&D activities. Includes a partial list of organizations that either salvage, remill, and/or regrade whole used lumber. 
- Recycled Aggregate An overview of recycling concrete and asphalt into aggregate base and subbase, including Greenbook and Caltrans specifications, organizations, and siting considerations in California. 

 Fact sheets can be viewed on the "Construction & Demolition Recycling Program" Web site at:
www.ciwmb.ca.gov/ConDemo/factsheets/

Have You Considered Deconstruction?



Building 901, located at the Presidio of San Francisco, was slated for demolition. A one-story wood frame building with floor dimensions of approximately 60' x 135', constructed almost entirely of wood, with wood siding, wood flooring on concrete supports, and wood slat roofing boards covered with a recent reroof of asphalt shingles.

“The intent of the 901 project was to salvage and recycle . . .”

The demolition involved a great deal of hand dismantling and salvaging of materials. The intent of the 901 project was to salvage and recycle as much material as possible, while performing the operation at a cost competitive with traditional demolition operations.



The materials were salvaged to the greatest extent possible and sold to the group(s) with the highest bids.



Each deconstruction project is unique and will have to be evaluated for the materials that will be generated, the local markets, labor costs, time frames, and overall feasibility. This particular project has yielded some general

conclusions that can be applied to any proposed project. For more information on the “Presidio of San Francisco” case study, visit the Board’s C&D Web site at:

www.ciwmb.ca.gov/ConDemo/CaseStudies/Presidio/

What is a Green Building?



A "Green Building" is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner.

The Elements of a Green Building Include:

- Energy efficiency measures
- Occupant health and safety measures
- Resource efficiency measures

Here are some examples of resource efficiency...

- Sustainable construction materials and products, such as reused building products and recycled-content products, extend the world's available resources and reduce environmental impacts associated with resource extraction. Closing the recycling loop is critical for sustainable recycling markets.
- Dimensional planning and other material efficiency strategies reduce the volume of building materials and cut construction costs. For example, designing rooms on 4-foot multiples conforms with standard-size wallboard and plywood sheets. This saves material.
- Reuse and recycling of construction and demolition materials, such as using inert demolition materials as a base course for a parking lot, extends the world's available resources and reduces environmental impacts associated with solid waste landfills.

**For more information, contact Rick Muller at CIWMB:
(916) 255-2359 or rmuller@ciwmb.ca.gov**

Looking for building products made with recycled materials?

Check the "Recycled-Content Building Products" List

This includes approximately 450 manufacturers/distributors of recycled-content building products sold in California. Product categories include aggregate, asphalt, masonry, structural, flooring, walls, insulation, fixtures, paint, roofing, wood substitutes, and outdoor.

There is also a searchable database on the Boards's C&D Web site:

www.ciwmb.ca.gov/ConDemo/

Additional Resources for C&D Recycling and Related Topics

- SOLSTICE A site containing information on energy efficiency, renewable energy, and sustainable technology information. Also contains many other links to related topics. **www.solstice.crest.org/index.shtml**
- CLEAN WASHINGTON
CENTER This site contains information on C&D management with numerous fact sheets, case studies, and resources listings. **www.cwc.org/briefs/construction.html**
- OIKOS This site has information on green building sources, a searchable data base for green building products, and an a green building mailing list in which leading professionals from around the world discuss all aspects of environmental responsibility in building design and construction. **www.oikos.com/**
- PRISM This site has good background information on issues of C&D management. **www.wrfound.org.uk/wrffile.html**
- INFORM, INC. This site has an excellent report available titled *Building for the Future: Strategies to Reduce Construction and Demolition Waste in Municipal Projects*. Topics discussed include asset management, developing a waste management plan, dedicated space design, deconstruction techniques, and material reuse. **www.informinc.org/publications.html**
- BLUE BOOK OF BUILDING
& CONSTRUCTION A C&D management guide published by North Carolina State University Cooperative Extension Service for use by builders, developers, and contractors. **www.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/misc.html**
- ENERGY RESOURCE
CENTER. Southern California Gas Company's home page covering energy efficiency, sustainable building design, use of recycled-content building products, recycling C&D waste, etc. **www.socalgas.com/erc/ercsource/conserv.html**
- GREENCLIPS GreenClips is a summary of recent articles in the media on sustainable building design, green architecture, and related government and business issues that is emailed to subscribers. It is published every two weeks by Chris Hammer. **solstice.crest.org/sustainable/greenclips-info.html**
- WATER QUALITY & WASTE
MANAGEMENT National publisher of regional directories for the building and construction trades and professions. **www.thebluebook.com/**
- NATIONAL ASSO. OF
HOMEBUILDERS. This site has information on alternative building materials/techniques and a free 32-page publication, *Residential Construction Waste Management: A Builder's Field Guide — How To Save Money and Landfill Space*. A publication on deconstruction is also available, titled *Deconstruction-Building Disassembly and Materials Salvages: The Riverdale Case Study*. **www.nahbrc.org/**
- GLOBAL
ENVIRONMENTAL
OPTIONS (GEO) GEO is a nonprofit organization that seeks to restore a balance between the built and natural environments through the sustainable design of buildings, communities, and national parks. GEO uses a combination of comprehensive Internet resources, education and training, and hands-on design and planning projects. **www.greendesign.net/**